USAID
FROM THE AMERICAN PEOPLE

TECHNICAL REPORT

PILOTING INTERSECTIONAL GENDER ASSESSMENTS IN MALAWI

CHALLENGES AND LESSONS LEARNED

SEPTEMBER 2015

This publication is made possible by the support of the American people through the United States Agency for International Development (USAID). It was prepared by Engility Corporation and the University of South Carolina.

This report has been prepared for the United States Agency for International Development (USAID), under the Climate Change Resilient Development Task Order No. AID-OAA-TO-11-00040, under The Integrated Water and Coastal Resources Management Indefinite Quantity Contract (WATER IQC II) Contract No. AID-EPP-I-00-04-00024.

Engility Corporation Contact:
Michael E. Cote, Senior Climate Adaptation Specialist, Michael.Cote@EngilityCorp.com
Engility Corporation
1320 Braddock Place
Alexandria, VA 22314

Cover Photo: Liwonde Forest Reserve in the morning. Photo credit: Humanitarian Response and Development Lab (HURDL), University of South Carolina.

PILOTING INTERSECTIONAL GENDER ASSESSMENTS IN MALAWI

CHALLENGES AND LESSONS LEARNED

September 2015

Prepared for:
United States Agency for International Development
Global Climate Change Office, Climate Change Resilient Development project
Washington, DC

Prepared by:
Engility Corporation
Alexandria, VA

and

Sheila N. Onzere, Humanitarian Response and Development Lab (HURDL), University of South Carolina, USA

with

Tshibangu Kalala, Kwame Owusu-Daaku, and Edward R. Carr, Humanitarian Response and Development Lab (HURDL), University of South Carolina, USA

TABLE OF CONTENTS

ACRONYMS

CCRD	USAID's Climate Change Resilient Development mechanism
DFO	District Forestry Office
FCMBC	Forest Co-Management Block Committee
HURDL	Humanitarian Response and Development Lab
KG	Kilogram
LIG	Livelihoods as Intimate Government
MK	Malawian Kwacha
PERFORM	Protecting Ecosystems and Restoring Forests in Malawi

LIST OF FIGURES

LIST OF TABLES

ACKNOWLEDGEMENTS

We would like to thank the staff of the PERFORM project, in particular Ramzy Kanaan, Blessings Mwale, Phelire Nkhoma, Charles and Mavuto. We are particularly grateful for the assistance provided in identifying pilot sites, transportation to and from field sites and formal introduction to communities. Special thanks to the communities of Kwilasya Forest Block and Kachato Forest Block for hosting and welcoming the research team so wholeheartedly into the community. The District Forestry Office of Machinga district provided assistance by introducing the research team to the community thereby providing the team with legitimacy to carry out fieldwork in the two field sites. The use of the District Forestry Office headquarters for access to documents on co-management as well as access to the printer are greatly appreciated. Also, a very special thank you to the research team, Tshitshi Kalala, Love Masanjala, Baxton Nkhoma, Linda Dembo, Joshua Munthali, and Trezza Nkhoma.

1. INTRODUCTION AND BACKGROUND

A broad literature on vulnerability and adaptation has made the case for gender analyses as a fundamental component of both designing programs and projects aimed at addressing the effects of climate change and assessing their impacts. These lessons are apparent in the guidance documents of various donors, including USAID.[1] While the guidance of these and other documents compel both donors and implementing partners to consider the effect of gender considerations on program and project outcomes, there is less guidance on *how* such considerations are to be identified.

As an important aspect of development and adaptation programs, gender analyses have provided empirical evidence for the complex impacts of climate change on livelihoods, as well as the ways in which people mobilize material and social resources available to them to address those impacts. In practice, however, the framings of gender utilized for gender analyses within climate change programs and projects lag behind newer, more nuanced, conceptualizations within the gender and adaptation literature (Carr 2008; Carr and Thompson 2014; Sultana 2013; Demetriades and Edplen 2010; Kaijser and Kronsell 2013). Several pertinent aspects have emerged from this literature that can inform and move the practice of gender analysis forward. First, as an organizing social category for livelihoods, resource allocation, and roles and responsibilities, gender takes meaning from its association with other social categories, such as age, ethnicity, and class. Gender, rather than being an intractable characteristic of individuals, is dynamic and the roles, responsibilities, power relationships, and resources associated with being a man or a woman can vary significantly depending on the situation, even for the same individual. This, in turn, leads to a second important insight - although gender is often an important social cleavage around which vulnerability and adaptation patterns coalesce, other social categories such as age, wealth, caste may be just as or even more important (Carr and Thompson 2014). In practice, therefore, programs and projects endeavoring to accurately understand vulnerability, *who* is vulnerable to *what* (Carr 2013), and patterns of adaptation, *why* and *how* people respond to perceived vulnerability, must take into account the complexity of gender itself. This entails understanding how gender matters in the context of the activities and stressors addressed by a proposed project or program.

While the lack of specificity with regard to approach and method in many donors' guidance documents provides critical flexibility for tailoring gender analysis to the question at hand, it also enables analyses that, while meeting the letter of donor expectations, do not provide the most relevant information needed to scope, design, implement, monitor, adjust, and evaluate programs and projects to ensure their benefits reach the widest number of beneficiaries. Many gender analyses gather data on men and women and then broadly compare that data.

[1] Guidance documents for USAID partners include ADS Chapter 205 (USAID, 2013); Gender Equality and Female Empowerment Policy (USAID, 2012c); Climate Change and Development Strategy (USAID, 2012b), its program and policy guidance for Building Resilience to Recurrent Crisis (USAID, 2012a), and the recently-released Climate Resilient Development Framework (USAID Global Climate Change Office, 2014).

Such analyses are predicated on an assumption (whether implicit or explicit) that gender is the primary and isolated driver of observed vulnerability patterns. At the onset, sex disaggregated data is collected with the expectation that roles, responsibilities, and rights within a particular context will mainly be determined by gender. Conclusions from this data are then inevitably drawn on the basis of group comparisons of differences between women as a homogenous disadvantaged group in relation to men as a powerful homogenous group. This is problematic since such binary analyses may miss critical aspects of roles, decision-making, and access to resources that go beyond narrowly-focused gender analysis, such as those that take shape at the intersection of gender and age, or gender and ethnicity. In other words, binary gender analyses tell us what differences may exist across broad gender categories, but are not able to explicate when, how, and for whom gender matters. These questions are critical to the understanding of vulnerability in the context of climate variability and change. Climate change related interventions informed by binary analyses may result in maladaptive interventions which overlook the needs of the most vulnerable segments of the target population, actually undermining the goal of improving gender equity or reduce the capacity of individuals to adapt in relation to the impacts of climate variability and change.

In recognizing this challenge, the USAID Office of Gender Equality and Women's Empowerment and the Office of Global Climate Change, through the Climate Change Resilient Development (CCRD) project, funded efforts to understand the current state of knowledge with regard to gender and climate change adaptation. Under the auspices of USAID's CCRD mechanism, Carr and Thompson (2013) developed a report and subsequent refereed publication outlining the state of knowledge on gender and climate change in agrarian settings. The report captures in detail lessons discussed above; and using three case studies, empirically demonstrates how different roles, responsibilities, and rights create variable patterns of vulnerability and opportunity within populations than cannot be captured through binary analysis. For example, a case study from Ghana demonstrates that gender, marital status, and household livelihoods strategy intersect to create different patterns of vulnerability among women in two small villages. This case demonstrates that a binary gender analysis would overlook the unique challenges facing poorer women, making it difficult to identify and address them through development and adaptation interventions. Another case study from Malawi shows that although gendered expectations and land tenure practices may produce different agricultural roles and responsibilities for individuals, the pooling of agricultural resources and income within households expose women and men to the same climatic or economic stressors. The case study demonstrates that the *a priori* determination of gender as the important factor in shaping agricultural vulnerability to climate variability and change may, in fact, obscure the potential impacts of climate stressors on livelihoods.

The prevalence of binary gender analyses in practice, however, is not simply a result of practitioners not being aware of new developments in literature or failing to grasp the emergent nature of gender and the relevance to development and adaptation outcomes. Rather, challenges exist that limit the incorporation of more complex and cutting edge gender analyses approaches into practice. Current norms in data collection tools, which lean heavily towards survey methodologies, do not easily lend themselves to nuanced forms of gender analysis. Additionally, since gender analyses are usually conducted so as to inform other project or program components, they are often conducted within time and financial constraints with the imperative to utilize already established methodologies (usually the

aforementioned survey methodologies). Given these challenges, opportunities to design and carry out experimental gender analyses within existing projects but outside of project/program related constraints present important opportunities in which to empirically demonstrate the feasibility of carrying out intersectional gender analyses, as well as to illustrate their comparative advantage when compared to conventional forms of gender analysis.

This report documents lessons learned from such a pilot study conducted in Malawi between April and May of 2015.

The pilot study was carried out with two main objectives:

- One objective was to build on the current state of knowledge as shown in the Carr and Thompson report and refine a methodology, as well as document processes, challenges, and opportunities of carrying out an intersectional gender analysis approach within the context of climate change adaptation projects. The study was conducted with ground support and assistance from Protecting Ecosystems and Restoring Forests in Malawi (PERFORM) project. Data collection for the pilot study was conducted in two communities adjacent to Liwonde Forest Reserve, one of PERFORM's intervention sites A five-year USAID funded project, PERFORM has the overarching goal of improving the capacity of Malawian communities and institutions to manage soil and forest resources sustainably and equitably (PERFORM 2015).
- The second objective of the pilot study was to generate useful data for PERFORM that could be incorporated into the project's gender analysis.

The rest of the report is organized as follows. (1) The first segment describes the study areas and the objectives of the pilot study in further detail. (2) The second section outlines the methodology utilized for the pilot including the theoretical approach, data collection tools, and respondent selection. (3) The third section of the report presents the findings of the study focusing on aspects of vulnerability as well as land use and forest use in the study areas. It should be emphasized that the report is focused on understanding how to conduct an intersectional gender approach. Consequently the data presented in this report are used to illustrate challenges and lessons learned rather than as the complete presentation of findings from a gender analysis. Data and experiences from data collection and analysis are used to illustrate opportunities, advantages and challenges of conducting an intersectional gender approach. The last section of the report outlines the challenges faced, opportunities and lessons learned.

2. OBJECTIVES OF THE STUDY AND SITE SELECTION

While the pilot study was created with the overarching goal of illustrating how to conduct an intersectional gender approach, the criteria for the selection of study areas and the objectives of the study were informed by PERFORM's focus on increasing low-emission land use opportunities and the project's intervention sites.

2.1. OBJECTIVES OF THE STUDY

Because greenhouse emissions in Malawi are significantly impacted by deforestation, charcoal production, fuel wood harvesting, and agricultural encroachment into forest areas, one of PERFORM's focus areas involves working with smallholder communities living adjacent to the forest reserves in project target areas. Given this focus, the objectives of the pilot study were tailored toward the collection of data that would further the understanding of patterns of forest and land use while also illuminating the vulnerability context for smallholder communities living around the study sites.

The study was guided by the following objectives:

- *To document the processes, challenges, and opportunities related to conducting an intersectional gender analysis for a project in the process of implementation*: The focus was on how gender as an intersectional social category has an impact on the forest use, agricultural practice, and the vulnerability context.
- *To provide useful data to the PERFORM project*: To this end we sought to understand how community members in the target geographies use available forest resources, land resources (we focused specifically on agricultural use). We also sought to document what community members in the target geographies define as their most pressing livelihood concerns (vulnerability context).

2.2. STUDY SITE SELECTION

PERFORM's intervention sites are centered around three forest reserves: Liwonde Forest Reserve in Machinga district, Perekezi Forest Reserve in Mzimba district, and Ntchisi Forest Reserve in Ntchisi district. In consultation with PERFORM staff, a decision was made to carry out the pilot study around Liwonde Forest Reserve in Machinga district. Two additional criteria, forest blocks and accessibility by public transport, were utilized so as to further narrow down the study area to specific sites.

Since 2014, as part of a wider government effort to devolve forest management from the national to local level and move to participatory forest management in Malawi, Liwonde Forest Reserve has been co-managed by local communities and the District Forestry Office (DFO).

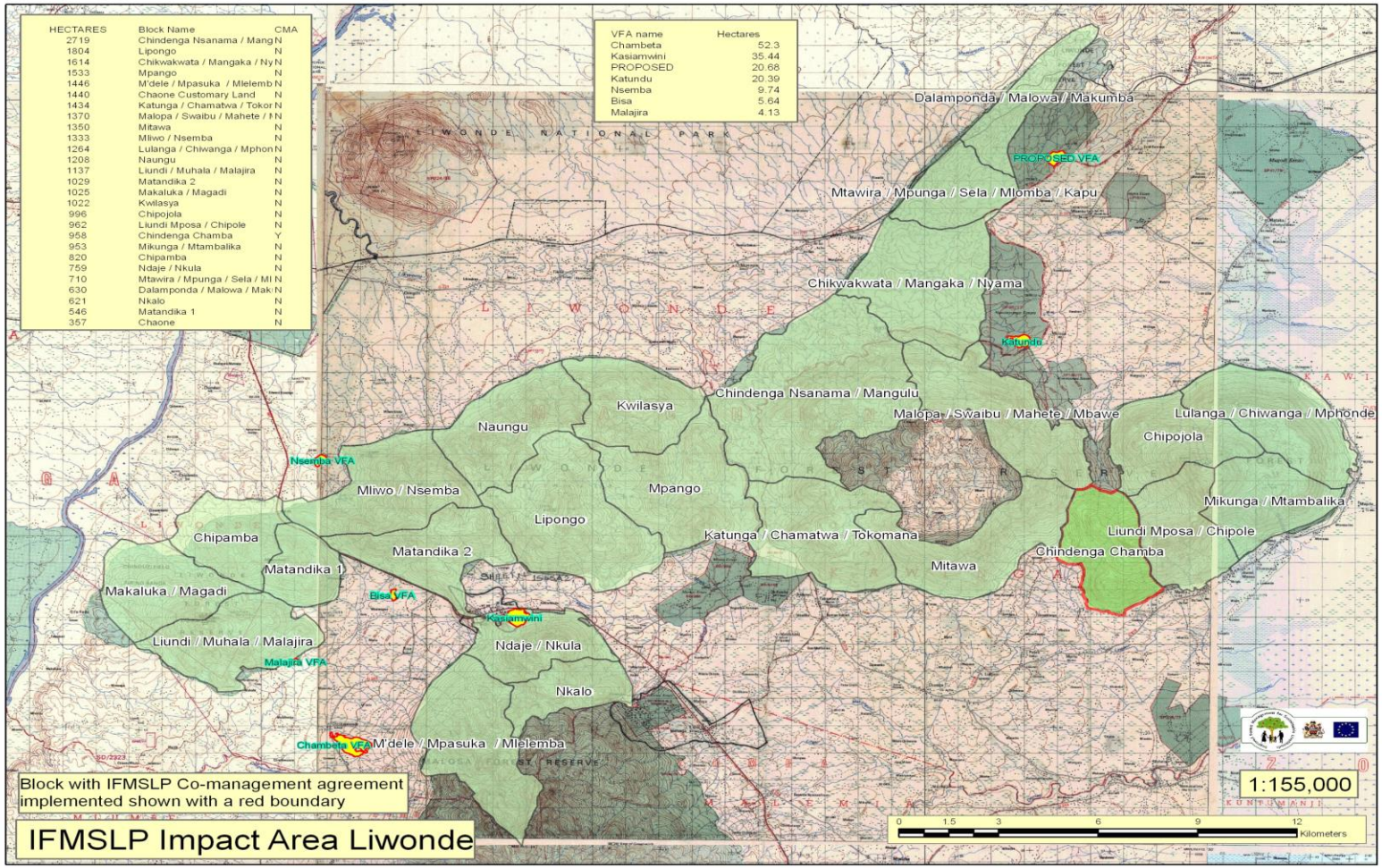
The idea driving co-management is to enlist communities in the ownership and management of forest resources in exchange for the sustainable use of these resources. For co-management purposes, the reserve is divided into 27 areas known as Co-Management Forest Blocks (see Figure 1). From these 27, two forest blocks were chosen as the study sites. These were Kwilasya Co-Management Forest Block and Kachato Co-Management Forest Block. The expectation was that both forest blocks would be dominated by Yao and Lomwe, with other ethnicities forming relatively small minorities. Both of these ethnicities have traditionally followed matrilineal/matrilocal systems of land tenure and inheritance, and have similar livelihood activities. In addition, both study sites have the same precipitation, agricultural and livelihood zones. These factors, therefore, were not taken into consideration when selecting study sites. Both sites were also selected due to their accessibility by public transport as the research team would be living in the communities and needed to travel regularly between the two field sites using public transport. The final criterion was the absence of recent major surveys/new development projects within the chosen sites. This was to minimize association with a particular project with interviewees responding in ways they perceived to be appropriate for the project in question. This was also related to the desire to avoid fatigue bias. Fatigue bias refers to a situation where respondents have been exposed to the same survey instrument or surveyed numerous times and, as a consequence, are more likely to give short, perfunctory, or rehearsed answers. One significant difference between the blocks is related to their proximity to major urban centers. The Kachato block has additional pressure on its forest resources since it is located near large urban populations with increased demand for charcoal and firewood.

Forest Co-Management Blocks demarcate both administrative and forest use areas for communities surrounding the forest reserve. As administrative units, forest blocks are managed by a Forest Co-Management Block Committee (FCMBC) composed of elected community members with oversight and support from DFO staff. Rules and guidelines for co-management are documented in Co-Management Plans negotiated and agreed upon by communities and the Forestry Office. Guidelines outline annual allocation quotas and fees for commercial or domestic use for various forest products per household as well as fines for violators. For example, households within Kwilasya block are allocated 32,240 head loads of firewood each annually for domestic use and 2,080 head loads for commercial use (Figure 2 shows the size of typical head loads). Firewood is normally collected from fallen or dry branches. A fee of 50 Malawian Kwacha (MK) for domestic use head loads and MK150 for commercial use head loads is payable to the FCMBC for each head load harvested. The revenues collected by the FCMBCs are invested in community projects.

As forest use units, forest blocks encompass both forest areas demarcated for particular uses such as provision of woody products, non-timber forest products, and environmental services, as well as the communities utilizing the resources within the designated areas. Located on the western side of Liwonde Forest Reserve, Kwilasya Forest Co-Management Forest Block is 1021.57 hectares with three perennial rivers and two annual streams. About 70% of the block is on steep slopes with mostly loamy black soil. Kachato Forest Co-Management Block is located on the eastern side of Liwonde Forest Reserve. A highway to Zomba and Blantyre, the third and second largest cities in Malawi, respectively, passes close by this forest block. It has a total area of 1,431.14 hectares and is characterized by steep slopes with red stony soils and black sandy soils. The block has seven perennial rivers. Both forest blocks have three Forest Management Units (FMUs), which define allowed usage. The first FMU is comprised of Eucalyptus plantations established by the government at the base of the natural indigenous woodland to provide poles and other timber products so as to relive pressure on indigenous woodlands. The second FMU is comprised of indigenous Miombo woodlands for commercial and domestic uses,

as well as woody species harvesting by community members. The third FMU comprises fragile areas including steep slopes, stream banks and stream sources where timber extraction is prohibited (Kwilasya Forest CoManagement Plan 2014, Chamatwa Forest CoManagement Plan 2014).

Figure 1: Map depicting Liwonde Forest Reserve Co-Management Blocks
Map courtesy of the Machinga District Forestry Office



3. METHODOLOGY: COLLECTING AND INTERPRETING DATA FOR THE REPORT

This pilot study utilized an intersectional approach to gender and the Livelihoods as Intimate Government (LIG) approach (Carr 2013, 2014) to inform the methodological framework for the study.

3.1. INTERSECTIONAL APPROACH TO GENDER

As a theoretical construct, intersectionality conceptualizes the meanings, rights, resources, roles and social relationships that are associated with individuals as an outcome of the interaction between social categories such as gender, wealth, race, class, or ethnicity. This interaction forms a "mutually constitutive system of relationships" (Vespa 2009) and is seen as a *process* that results in different life experiences as well as critical disparities in the material and social resources available to people. Moreover, the manifestation of these interactions is not additive but rather qualitatively unique to the specific set of interactions being observed. In other words, a woman who is wealthy is not simply a woman and a person who is wealthy. Her experiences are unique to that simultaneous intersection of wealth and womanhood in the context of the activity or interaction in which she is engaged. A wealthy woman means one thing, and can expect one set of interactions, when she is surrounded by poorer junior women, and likely a different set of interactions and meanings when meeting with men holding high positions in local or regional government. With regard to vulnerability, these interactions and the resulting disparities have an impact on the susceptibility of people and their livelihoods to climate change as well as their ability to prepare for, protect themselves, and recover from the impacts of climate change (Carr and Thompson 2013).

People's experiences with gender cannot simply be summarized as an accumulation of advantages or disadvantages across various contexts (Mullings and Schulz 2006). A poor woman does not automatically face a double burden of being poor and being a woman no matter the context. The meanings and resources attached to the same individual vary given different contexts. An example from this pilot study shows us clearly how this aspect of gender might work in real life and the impact it has on livelihoods. In conversations with men from Kachato Forest Co-Management Block, migration to South Africa emerged as an important avenue for rural men in Malawi to find well-paying wage labor so as to support their families. Men who had migrated, however, explained they felt that their sense of power and status while in South Africa was greatly diminished since they were seen as immigrant wageworkers. But, at the same time, their status and power within their home communities in Malawi increased *if* they were sending money home or had saved up enough money to start a business. For these men, the varying

expressions of manhood contribute to pressures to choose between returning to Malawi or assimilating into South African society. Those men who chose to assimilate (usually through marriage) often abandon family responsibilities back in Malawi. Through interviews with women in the pilot study areas we found that the choices of these men have important effects on the ability of their households to provision basic needs and the availability of male labor for conducting livelihood activities. This example shows both the emergent nature of gender where the meanings, roles, and responsibilities attached to the same individual can vary depending on context.

While intersectionality embraces the idea that gender is mutually constituted with other social categories and therefore its importance is dependent on the context, there is also recognition that not all expressions of intersections between social categories are important for the question at hand. This presents the challenge of identifying which observed intersectionalities are important given the context. Two concepts can be utilized in order to sort out the importance of observed intersections. Intersectional research makes a distinction between identities that are master identities and those that are "emergent". That is, some social categories (master identities) have an impact across numerous contexts while others (emergent identities) have an impact given a particular combination of aspects. Empirically, therefore, it is important to carefully identify what these master categories are in the context at hand. And, as Carr and Thompson (2013) demonstrate, although gender might be the most obvious and visible social category, it may not be the most important one (see also Shields 2008). Intersectional approaches to identity also ask researchers to pay attention to the mechanisms through which master social categories come to matter even when the end result is similar. For instance, divorced women and women whose husbands have migrated may both suffer from a lack of male household labor, but this end result is brought about by completely different circumstances and therefore these women cannot be framed as economically vulnerable in the same way.

With regard to understanding the effect of gender on vulnerability, livelihood patterns, and resource utilization within the study sites, this pilot study utilized the following insights from the literature on intersectional gender approaches:

(1) That gender as a social category is mutually constituted with other social categories. Special attention was paid to how other social categories interact with gender within the study site.
(2) That the interaction between gender and other social categories can create qualitatively different experiences for individuals embedded within the same context. Here the study focused on how the intersection of gender and other social categories such as migrant status created unique experiences for people as well as differences in rights and availability of resources, roles and responsibilities, status, power and vulnerability.
(3) Attention was also paid to whether and how gender was the master social category in determining access to resources.

3.2. THE LIVELIHOODS AS INTIMATE GOVERNMENT APPROACH

While an intersectional approach was used to conceptualize gender and its operation as a social category, the livelihoods as intimate government (LIG) approach was used to guide the collection of data in the field. LIG focuses data collection on understanding why (motivations) people make particular livelihood decisions and how this in turn has an impact on observed

livelihood outcomes. A full description of LIG can be found in articles published by Carr in 2013 and 2014. Here we focus on those aspects of LIG, which shaped the collection of data.

Within the LIG approach, the researcher begins by understanding vulnerability concerns as expressed by the target population. Paying attention to divergences and similarities of the identified concerns among the sampled population, respondents are then clustered into different vulnerability groups. These groupings reflect shared experiences of vulnerability among community members. During this stage, it is also important to catalogue livelihood activities, the reasons community members give for pursuing these activities, and who undertakes each of these activities are identified. A second component of LIG explores the rationales and explanations that are given for pursuing particular activities, which activities are appropriate or inappropriate for particular community members and why, as well as the challenges and opportunities to which activities respond.

By focusing attention on the fact that there are multiple experiences of vulnerability within the community, LIG offers a way to connect the intersectional conceptualization of gender as a social category with a practical way of observing how this might play out in people's livelihoods.

3.3. DATA COLLECTION

The main data collection tool utilized in the study was semi-structured qualitative interviews. Informal conversations and observational data were also used to collect information, which was then triangulated with the results of the more formal interviews. A man and a woman comprised the research team at each site. Several factors were considered when selecting the research team. The willingness to live in the communities where the pilot study was conducted was an important consideration. Two host families were secured in each study site with assistance from PERFORM. One family hosted the female team member and another the male team member. During the five weeks of fieldwork, the team lived as part of the host family and contributed to daily household chores and to the household's weekly groceries (providing MK 6,000 or directly buying groceries for the family). Since local transportation was the only mode of travel in or between the sites, members of the research team also had to be comfortable with the idea of getting to interviews and traveling between research sites by walking or bike taxi for the duration of the study. This was an important consideration given that the sample area (a Forest Co-Management Block) was quite large and distances between interview homesteads could be significant. All team members were also required to be conversant in Chichewa as the interviews were conducted in the local language of the communities affected by the project.

Once the research team was selected, staff from the Humanitarian Response and Development Lab (HURDL) conducted two days of face-to-face training. The training focused on concepts related to understanding gender as an intersectional social category and stages in the collection of data using LIG and expectations for fieldwork. HURDL staff also led two additional days of field training within the communities around Liwonde Forest Reserve. The main objective was to train the research team on how to utilize the LIG approach and to iteratively improve and tailor the approach to the context.

Following the LIG approach, data collection was conducted in two phases. The first phase sought to understand livelihood stressors as identified by community members, livelihood activities, rationales for pursuing these activities, forest use, and land use patterns. After this initial phase of interviews, respondents were then organized into different groups reflecting similar livelihood and vulnerability concerns. A second phase of interviews was conducted with community members from each of these groups. These interviews were concerned with

identifying the roles and responsibilities of different community members and the associated rationales.

Phase one interview respondents were selected using snowball sampling, while phase two follow-up interviews were selected using purposive sampling. Since this report is interested in demonstrating lessons learned from conducting an intersectional gender analysis alongside an active project, data was utilized from only one of the forest blocks–Kwilasya. The full range of data collected from the two field sites will be made available to PERFORM separately. Within Kwilasya block 80 interviews were conducted in the first phase with 38 (23 women and 15 men) conducted in the second phase.

Figure 2: Typical size of head loads

Figure 3: Bike taxis provided the bulk of transport within field sites

Figure 4: Field researcher Baxton Nkhoma conducting an interview

Figure 5: Field Researcher Trezza Nkhoma helping cook dinner in a host family kitchen

4. CHALLENGES AND LESSONS LEARNED

Intersectional methodologies focus on how gender is constituted with other social categories, as well as, how these mutually constituted relationships create qualitatively different experiences for the individuals/groups involved. Therefore, an intersectional gender analysis, in addition to seeking to understand gendered livelihood and vulnerability patterns, has to explicate the processes and mechanisms through which gender operates within the local context. Here, lessons unique to the implementation of an intersectional gender analysis are discussed, and which must be taken into account alongside other guidelines for data collection. Please see Appendix A for a list of resources on conducting qualitative and participatory gender analysis within the context of programs/projects focused on climate change.

1) Intersectional gender approaches are best implemented through qualitative methodologies
2) Initial fieldwork in intersectional gender approaches is exploratory in nature and cannot be driven exclusively by hypotheses determined beforehand thereby reducing the utility of quantitative methodologies
3) Iterative data collection processes are an important, perhaps integral, part of any attempt to collect information using an intersectional approach to gender
4) The types and how questions are asked are critical to the outcome of an intersectional analysis
5) Data collection for intersectional approaches is as an immersive and intense process
6) The quality of the research/data collection team is particularly important in the quality of data received
7) Intersectional gender analyses take time and might not be suited for collection of data for severely time-constrained initial gender baseline analysis/assessments
8) Data collected from intersectional gender analysis can effectively build on preliminary gender assessments and provide critical information on how gender shapes vulnerability and adaptive capacity within a particular context
9) It is important for implementers and donors to work with gender analysts to shape gender assessments appropriate to project needs and goals

Intersectional gender approaches are best implemented through qualitative methodologies: Because an intersectional gender approach focuses on processes and mechanisms, qualitative methods are generally more suited than quantitative survey methods for data collection in intersectional gender analyses. These methodologies are more compatible with the goal of exploring relationships between different phenomena and outcomes of inequality, and disparities that emerge from these relationships. Using qualitative methodologies, particularly those where respondents explain their experiences (for instance unstructured interviews or life histories) allow the researcher to understand what people perceive to be their vulnerabilities as well as the intersectional gender categories at play within particular contexts. This is particularly important since, as Carr (2013, 2014) observes, livelihood decisions are often made in response to people's

perceived vulnerabilities, whether those correspond to climate change impacts or not. By way of illustration, residents in both forest blocks identified lack of money as their major livelihood concern. In response, these respondents expended significant effort on formulating and pursuing livelihood activities that could increase household incomes including pursuing *ganyu* (day labor) and petty business. Changing rainfall patterns were not only seen as a lesser concern than income, they were also often interpreted through the lens of reduced yields. That is, reduced yields were seen as a livelihood concern that could be explained by changing weather patterns, but weather and climate, in and of itself, was not a significant concern. Projects aimed at addressing vulnerability to climate change and variability must be aware of the concerns, as conceptualized by the target population, driving observed livelihood patterns and decision-making in order to be effective.

Initial fieldwork in intersectional gender approaches is exploratory in nature and cannot be driven exclusively by hypotheses determined beforehand thereby reducing the utility of quantitative methodologies: Since intersectional approaches strive to understand not only the number of men or women involved in particular activities, but also how, why and in what way gender matters to these activities and the vulnerabilities associated with participation in these activities. For example, during the initial phase of interviews in Kwialsya Forest Co-Management Block, migrant women appeared to present an interesting subset of women interviewed. However, in the course of interviews, it became apparent that the category "migrant women" was too coarse to capture the specific vulnerabilities emerging around these women. An older woman explicitly indicated that being an immigrant or a woman did not shape her livelihood challenges. Instead, she defined illness, age and poverty as her major challenges: "*I don't think not being a woman or someone who just came here for marriage could have been related to my challenges because all these houses that you see are my children born from the first man who I married. Unfortunately he died and then came my second husband is also caring. So you can see this is how I live here comfortably*" (Kwilasya # 14). In contrast younger migrant women complained of being isolated with limited social connections, which, in turn, gave their husbands and husbands' families more power in making decisions for the women. In explaining her livelihood challenges one young woman discussed her major difficulties as lack of money and low yields. She then went on to explain that she thought being an immigrant was problematic and if she was living in her home area she would not be the same challenges (*Kwilasya #76*). Another young woman cited expectations of having to share her meager resources with her husband's sisters and take care of her husband's ill father as added responsibilities, which she would not have had living in her own home area (*Kwilasya # 78*). These responses complicate the idea of gender, and indeed the intersection between gender and migrant status, when considering women's vulnerability for women. Older migrant women may be more secure particularly once they have had adult children or have a supportive husband and have built up their social networks within the community. As such, for these women, time is a critical factor in the determination of the intersection of being a migrant woman with the corresponding demands on their limited resources stopped being an important aspect of their experiences as women. Therefore, for migrant women, it is the intersection of gender, migrant status, and age that produces their vulnerability outcomes. This example also points to the ways in which an exploratory approach to data collection can allow the researcher/data collector to build a more complex but realistic understandings of vulnerability, as well as what and how gender intersections matter under what conditions.

Iterative data collection processes are an important, perhaps integral, part of any attempt to collect information using an intersectional approach to gender: As indicated earlier, in this study we utilized LIG, which has two phases of data collection. The first phase of the interviews was focused on understanding vulnerability and livelihood patterns while the second phase was

focused on roles, responsibilities and decision-making. This first phase was important not only in understanding how gender intersected with other categories but also in helping draw conceptual categories around what constituted important (master) intersections that could be further investigated in the second phase of data collection. However, because the second phase of the interviews immediately followed the first, respondents were divided into vulnerability groups that mostly aligned with gender (men and women) and livelihood activities (*Ganyu*, business and farming). This was a missed opportunity for the study because the second phase of data collection would have produced significantly richer information had intersectional gender categories been taken into consideration at this stage. In this way, a methodological framework such as LIG, where data is collected in several phases is suited to the collection of data in intersectional gender approaches. Whatever the methodology, it is critical to allow sufficient time (one or two weeks depending on timelines of the project) to explore the data and identify the intersectional gender categories relevant to the project and stressor at hand.

The types and how questions are asked are critical to the outcome of an intersectional analysis: Several questions were included in the first phase of interviews to solicit opinions and experiences of vulnerability and how these were related to various social categories observed within the community. Some questions used in the study illustrate the importance of framing the question well. Respondents were asked what factors they perceived as shaping their challenges (including female headed households, age, being an immigrant and so forth). The expectation was that respondents would be able to articulate these factors quite eloquently. After all they were able to clearly explain what they saw as their major challenges. Instead, often seemingly vague answers were given: "I just feel like it's normal, even if my husband could have been around we [would] face the same challenges, so it's normal" (Kwilasya #30). Similarly another questions on what strategies respondents use to try and overcome challenges they face also normally received common and standard answers: "The problems could not have changed that's what I am telling you, it's normal!" (Kwilasya #30); "There is nothing that I can do. I just stay here waiting for what will happen next" (Kwilasya # 2), or; " There are just challenges everywhere" (Kwilasya # 69). These vague answers, are interesting insofar as they speak to community norms, did not elicit the full range of information we were seeking. In contrast, when asked to think about how their challenges could be different if they were not who they were (for example, a woman, a man, an old person), respondents provided more detailed answers. As an example, one young female respondent, when asked how her life would be different provided insights into how she would likely make decisions in the event of a significant change in resources. "If I had a small business I would not have been doing ganyu. I would like to sell dry fish if I get capital. This is the kind of business I can manage" (Kwilasya #26). Another respondent, an elderly man, in explaining how his challenges would be different, points to an important intersectional aspect for men. "I think that being head of the family I have a lot of responsibilities. This is what shapes my challenges, I think. Although my children are all married. If they don't have money or food at their homes they still come back to me (Kwilasya #22). This points to the intersection of gender and age or relative wealth as an important determinant of livelihoods, and therefore a likely determinant of climate-related vulnerability.

What these responses show is that the type of data received can vary significantly depending on the types of questions asked. This is not necessarily because the questions are not suitable to the context but rather because the questions need to provide respondents with the opportunity to both illuminate aspects of existing normative explanatory frameworks of their livelihoods (this is how things are, or should be)[2] and at the same time move beyond this to give more personal,

[2] See Carr 2013 for a discussion of livelihood rationales

aspirational explanations. This is especially important because although people often give "short hand" answers in explanation of their life, they nonetheless have given serious consideration to their circumstances, the reasons they find themselves in these circumstances, and the choices they would make given different resources.

Data collection for intersectional approaches is as an immersive and intense process: While qualitative data provides rich and more in-depth information for understanding the vulnerabilities that emerge at the intersection of different identities, the process of data collection can be intense and overwhelming. Data collection in both study sites occurred over a period of five weeks during which field researchers lived and worked in the target communities. Within the five (four weeks of data collection and one week for field training and improvement of the questionnaire) weeks that the research team lived in the community, four field researchers conducted 217 in depth semi-structured interviews. This intense level of engagement with communities produced challenges and opportunities both on the researcher side and the community side. For field researchers, the approach asked them to engage with and immerse themselves within the community. The idea was that this period of community residency would enable the field researchers to observe decision-making as well as roles and responsibilities, thereby triangulating data collected through interviews. This worked well. Residing in the community was also important in that it allowed the research team to build rapport with respondents and clarify questions during casual conversations. Five weeks of living and travelling by public transport (mostly walking and bike taxi), however, was fatiguing for the research team. In addition, female members of the research team from Malawi were subject to local social expectations to assist in the homestead, including their own expectations of their appropriate role (See figure 3 above). Men did not experience a similar expectation. As a result, female researchers were routinely more fatigued at the end of an interview day than their male colleagues. These considerations present dilemmas with regard to how much work field researchers embedded within the community can be asked to complete, as well as whether there should be different levels of compensation for different types of researchers depending on anticipated additional burdens that can be placed on them within the same context for doing the same work.

Having outsiders live within the community for five weeks also interfered with community dynamics. For instance, the weekly grocery contribution created particular conflicts between community members with some non-participating households making claims for additional resources to their households. This had some impact on the morale of the research team as well as the community to respond to researchers. In normal circumstances, such a small contribution to households' grocery budgets (MK 6000) would not have mattered. However, in the context of a flood and drought cycle that had an adverse impact on the year's harvest any additional boost to the household's ability to purchase food took on added significance. In longer term qualitative studies conducted within communities there is often time for this upset in community dynamics to recover. With shorter field time, opportunities to remedy these conflicts are limited. Intersectional gender analysis approaches however lie somewhere between long term and short term studies and as a result, careful consideration of the impact of a period of community residency should be taken into consideration.

At the beginning of the fieldwork, despite serious effort not to be associated with a particular project, the research team became associated with the forestry office. This was as a result of having host families associated with the Forest Co-Management Block Committee

(FCMBC). As a result, residents assumed the research team was affiliated with the forestry office, and did not initially provide honest responses for questions related to forest use. After this initial rumor, another rumor spread within the community that the research team was there to "take" people's blood. Luckily for the research team, this second rumor counterbalanced the first and opened up respondents to answer questions related to forestry. These two examples show that any research that requires researchers to live and work in communities must seriously think about not only the ethical implications of the interaction between researchers/ development workers but also how entry points into the community are organized.

The quality of the research/data collection team is particularly important in the quality of data received: In immersive qualitative fieldwork, the researcher becomes a critical determinant of the type and quality of the data collected. The quality of data received is to a large extent correspondent to the quality of the researchers themselves. Interviewers must have the needed skills in probing answers from respondents. The fieldwork in Malawi also shows that it is critical to have field researchers who are adaptable and flexible since interviews within the Training was also important for the research team to understand fundamental concepts and ideas related to gender as an intersectional social category. Experience from Malawi shows that this can be a difficult concept to understand and separate from the more conventional approach where gender and other social categories are seen as additive social categories.

Intersectional gender analyses take time and might not be suited for collection of data for initial gender baseline analysis, which are time limited: Gender analyses which are normally required as part of the initial baseline study are usually required to be completed within three months of the beginning of the project. In addition, many projects often have a limited number of personnel that can be dedicated over a significant length of time to gender analysis activities. Given the immersive and iterative nature, the time required for data analysis and limited personnel intersectional gender analysis cannot be completed within the short time frame normally allocated to complete a baseline gender analysis.

Data collected from intersectional gender analysis can effectively build on preliminary gender assessments and provide information on how gender shapes vulnerability and adaptive capacity within a particular context: Intersectional gender analysis can provide information critical for the interpretation of interesting or contradictory data or patterns that emerge out of baseline gender analysis. Such rigorous interpretation of baseline data is critical to any effort to evaluate and adjust programming to improve their relevance and quality.

It is important for implementers and donors to work with gender analysts to shape gender assessments appropriate to project needs and goals: For climate change adaptation programs and projects which have the need not only to identify who id doing what but also who is vulnerable to what and how, it is critical to work with gender analysts to shape the methodologies as well as the analysis of data collected. The uninformed or untargeted application of a gender analysis tool at the outset of a project is unlikely to yield information about gender and gendered differences of value to the project at hand, and could even produce data that leads to inappropriate interventions.

5. DATA RESULTS

The principal goal of gender analysis is to ensure that projects address appropriate challenges and make design and implementation decisions while aware of the implications of such decisions for men and women in target populations. To gain such an understanding, gender analysis seeks to identify patterns in resource ownership, rights to resources, roles and responsibilities, and power relationships between men and women. Given this, the goal of intersectional gender analysis must be to contribute to the systematic identification of key issues contributing to observed patterns in resource ownership and access, roles and responsibilities and power relationships. Here, we use examples from the empirical data to demonstrate the value of an intersectional approach to gender versus that of standard approaches when looking at various aspects of men's and women's lives and livelihoods.

5.1. RESPONDENT CHARACTERISTICS

Eighty respondents of the Kwilasya Forest Block (50 women and 30 men) were interviewed. The majority of those interviewed were Yao by ethnicity, followed by Lomwe. About 21% of the respondents had no education at all, while 36% of respondents had some primary school education (Standard 1 to 7), approximately 13% had finished primary school, while only about 6% of respondents had attended secondary school. 61% of respondents were monogamous, 20% were in polygamous marriages while 7% of respondents were divorced. Table 1 shows the gender, ethnicity, education, and marital status of respondents in more detail.

Table 1: Respondent Characteristics Kwilasya Forest Co-Management Block

Gender	Frequency	%
Female	50	62.5
Male	30	37.5
Total	**80**	**100**

Ethnicity	Frequency	%
Yao	45	56.25
Lomwe	28	35
Manganja	2	2.5
Nyanja	1	1.25
Ngoni	1	1.25
Tumbuka	1	1.25
Total	**80**	**100**

Education	Frequency	%
None	17	21.25
Std 8	11	13.75
Std 4	10	12.5
Std 7	7	8.75
Std 5	7	8.75
Std 2	3	3.75
Frm 2	2	2.5
Frm 4	2	2.5
Std 1	2	2.5
Madrasa	2	2.5
Frm 1	1	1.25
Total	**80**	**100**

Marital status	Frequency	%
Monogamous	49	61.25
Polygamous	20	25
Divorced	7	8.75
Widow	3	3.75
Widower	1	1.25
Total	**80**	**100**

5.2. LIVELIHOOD ACTIVITIES

The three most commonly reported livelihood activities were farming, business and *ganyu* (day labor*)*. All of the respondents were engaged in farming as a main livelihood activity with the exception of one man who relied on *Kabaza* (Bike taxi*)* business as his primary source of livelihood. As explained by an elderly male respondent: "*As for farming this is the basic activity that everyone does in a rural setting like this since this the only way to ensure food security*" (*Kwilasya # 71*). 99% (79) of the respondents practiced rain-fed agriculture, while 33% (26 respondents–14 women and 11 women) also practiced *Dambo* (Marshland) and irrigated agriculture.

The next most common livelihood activity after farming was business, with approximately 39% of the respondents (31 individuals) reporting being engaged in business. There were 25 of the 31 respondents that reported selling produce as a main livelihood activity. Other business activities included selling fish (seven respondents), making and selling fried doughnuts locally known as ball floats or *Mandasi* (six respondents), keeping a grocery shop (three respondents), and weaving baskets (two respondents). Selling firewood, grocery shop, *Kabaza* and tinsmithing were reported as livelihood activities by one respondent each. One female respondent reported pursuing any business opportunity that was available.

Ganyu was the third most commonly reported livelihood activity, with 17 respondents indicating that they regularly seek day labor including farm work, molding bricks, and slashing grass along highways. *Ganyu* activities included agricultural labor (including weeding, opening up land for planting, harvesting, and post-harvest activities such as shelling corn), working with brick molders, and working with on district government activities such as clearing road ditches. Other livelihood activities mentioned by respondents include fishing (two male respondents), formal employment (one male respondent) and livestock husbandry (one female respondent).

Table 2: Livelihood Activities Kwilasya Forest Co-Management Block

Activity	# of respondents	% of respondents
Farming	79	99
Damboland/ irrigated agriculture	26	33
Business	31	39
Ganyu	17	21
Fisherman	2	-
Firewood collection for sale	1	-
Employment	1	-
Livestock keeping	1	-

5.2.1. LIVELIHOOD ACTIVITIES BY GENDER

Figure 6 and 7 show livelihood activities by gender. There were insignificant differences in the overall number of male respondents and female respondents who practiced farming, business and *ganyu* overall. Twenty-nine out of 30 men and 50 out of 50 female respondents practiced rain fed agriculture. Men and women also grew many of the same crops since all of the household's farming is done within the same field with crops intercropped. Twenty percent (11) of women and 20% (6) of men reported *ganyu* as a livelihood activity, with both genders mainly using it as a supplement to farming activities. Two exceptions were the one man who was not engaged in agriculture and one woman who mostly relied on *ganyu* and only farmed if she was not able to make enough income through *ganyu*. One woman relied on animal husbandry as a major source of livelihood.

Important differences emerged, however, when looking at particular business activities conducted by men and women. Of the 25 respondents who sold agricultural produce, 20 were women and 5 were men. This may reflect limitations that women have with regard to finding employment (See further discussion about this point in the vulnerability context below), thus finding themselves confined to agricultural based activities. Most of these women, 75% (15) of those who reported selling agricultural produce, trade part of their harvest in order to buy basic needs for the households and to provide for children's needs. Three women who sell agricultural produce specialize in growing and selling only tomatoes. Although several women in conversations identified tomatoes as a woman's crop, we found men who also claimed to grow the crop. Tomato was the only crop identified by some respondents as an explicitly gendered crop within the area. Two women reported growing maize in *dambo* land specifically for sale during the lean maize period. Two women were village traders. One grew tomatoes and sweet potatoes, but also bought these crops from other farmers and resold them to larger traders. The other woman specialized in buying *dambo* land grown vegetables from other farmers and reselling these at the local market. Finally, one woman was a vendor selling fruit at the local school and market. The five male respondents in this category all reported selling part of their harvest. Of the seven respondents selling fish six were male while one was female. Selling fish was a seasonal business for the woman. This corresponds to findings in the literature, which show that fish trading is seasonal where fish catches are higher during the warm season (Kambewa, Nagoli and

Husken 2009). It is not clear why men did not also report selling fish as a seasonal activity. Only men reported tinsmithing (one man), brick molding (one man), and *Kabaza* (one man) as business activities. Although each of these livelihood activities are reported by a small number of respondents anecdotal evidence and observational data confirm that these are gendered activities. Only women reported selling *Mandasi,* charging cell phones and selling firewood as business activities. Of these activities, only selling *Mandasi* is a gendered activity with mostly women engaging in the activity.

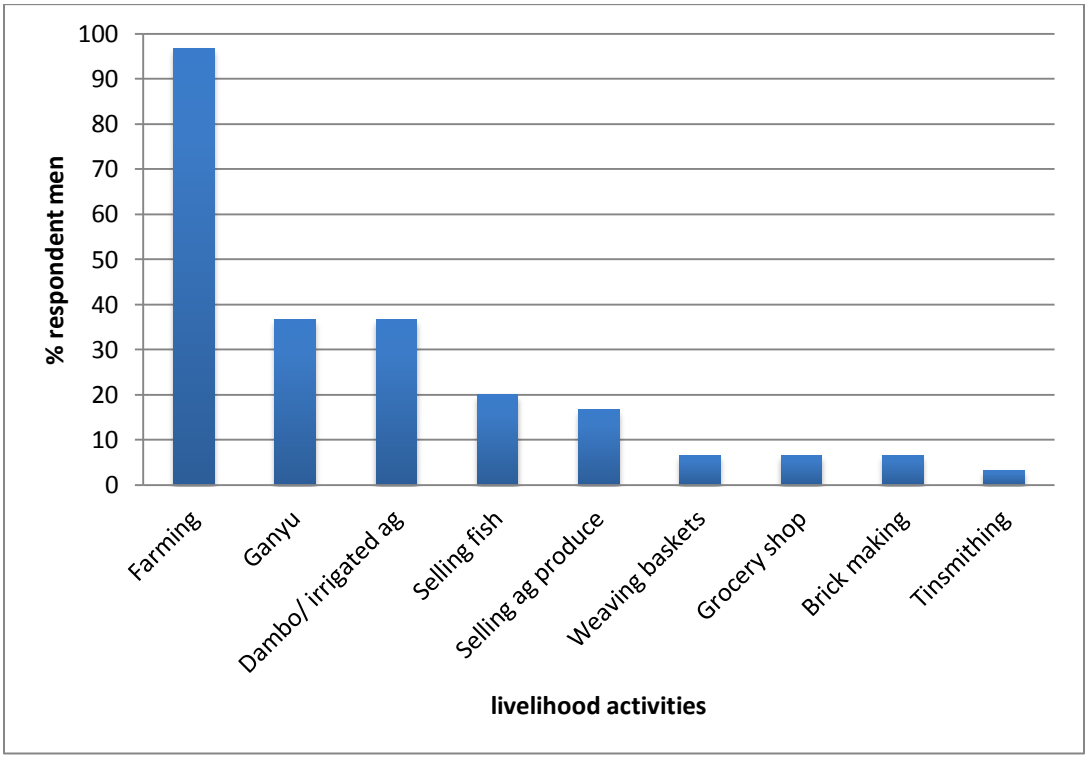


Figure 6: Livelihood activities for men in Kwilasya Forest Block

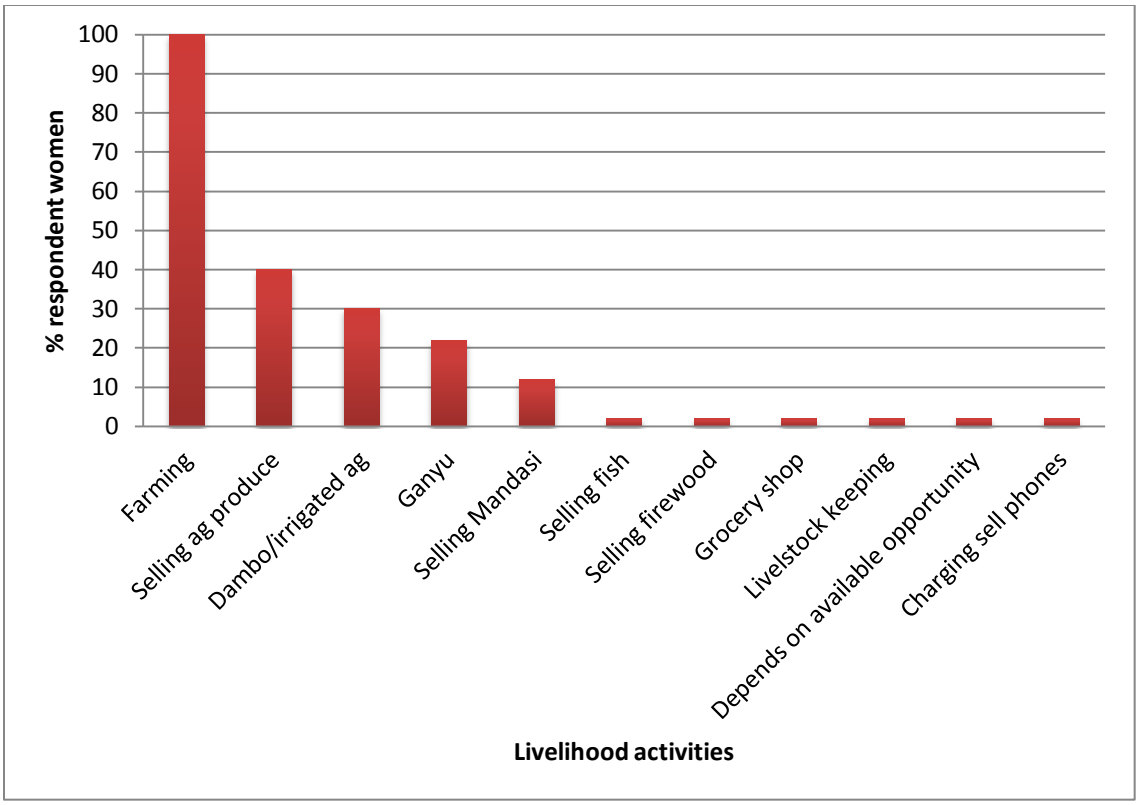


Figure 7: Livelihood activities for women in Kwilasya Forest Block

5.3. VULNERABILITY CONCERNS

Figure 8 shows the livelihood stressors, in declining order of frequency of mention as identified by residents of the Kwilasya Forest Block. Only those stressors that were mentioned by ten or more respondents are included in the figure. Financial problems were the most commonly cited challenge with 50 respondents (62.5%) indicating that poverty, not having enough income or being cash poor were major livelihood challenges. Financial problems were attributed to the lack of a regular source of income as well as not having crop surpluses for sale. The major concern related to not having money was the inability to meet day-to-day household basic needs. 54 % of those who identified financial problems as a major livelihood stressor reported having problems acquiring food, household utensils, clothes, salt, sugar, and soap. Other problems included difficulties paying for school fees, making house repairs, additional farm labor, and capital to start a business.

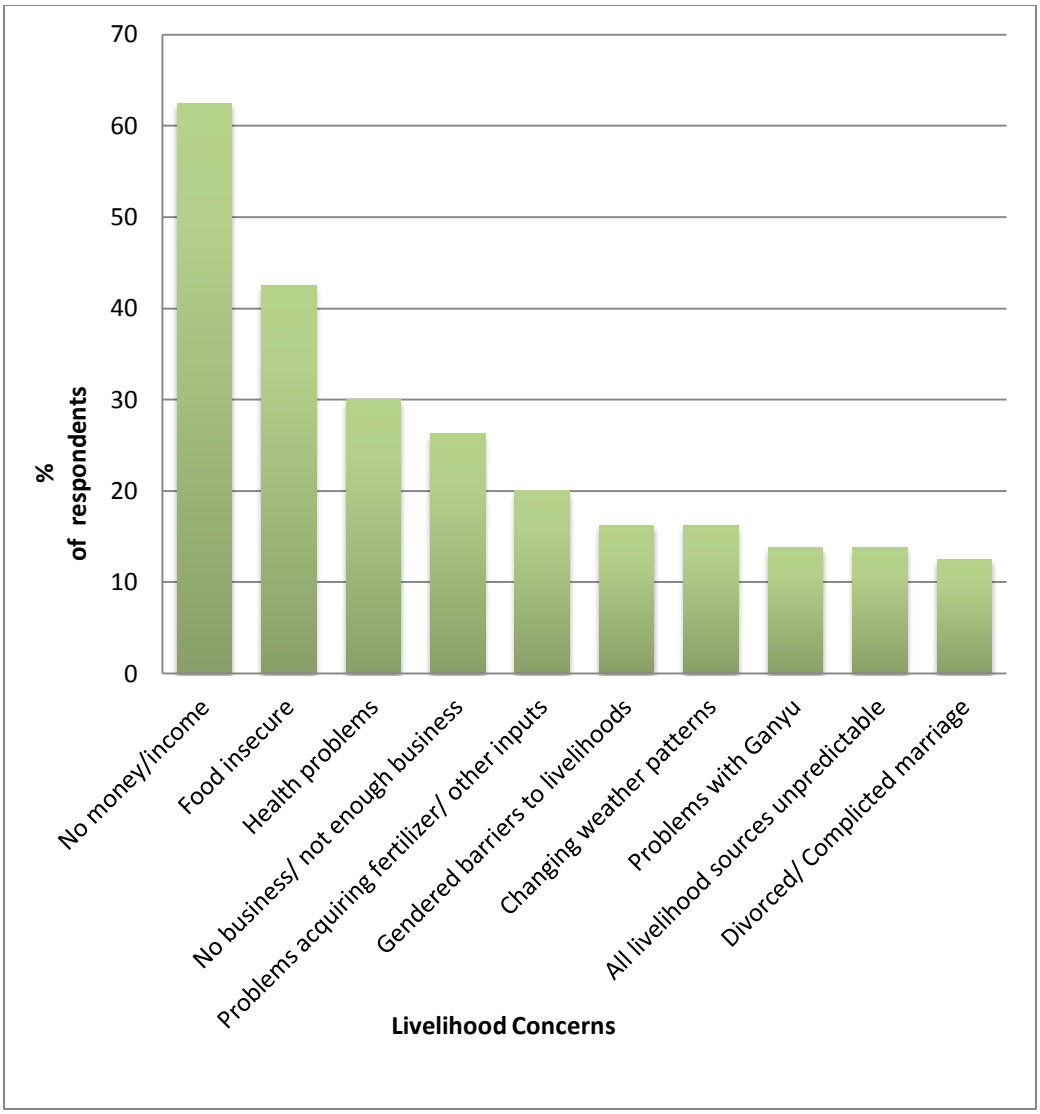


Figure 8: Major livelihood concerns identified – Kwilasya Forest Block

The second most commonly mentioned livelihood stressor (42.5% of respondents) was the inability to feed the household through to the next harvest season. There were 16.25 % of respondents that mentioned changing weather patterns as a primary livelihood concern. This included changes in the dry and rainy seasons of the growing season. 30% of respondents indicated health is a major concern. Sickness of the farmer herself or himself, which reduced the ability to work and make a livelihood, was the most frequently discussed problem under health issues. Lack of access to adequate health care facilities because the nearest reliable health facility is more than six kilometers away in Liwonde town was also seen as a significant health related challenge. While both female and male respondents were concerned with personal illness, young women also expressed concern about the impact of their children's illness on their ability to carry out livelihood activities since they are the primary caretakers for sick children. Other frequently mentioned livelihood concerns included lack of business/lack of demand for business services provided (21% of respondents), problems acquiring fertilizer and other inputs (20%), gendered barriers to livelihoods (16%), problems with *ganyu* (14%), having unpredictable livelihood sources (14%) and divorce or complicated marriages (13%).

5.3.1. VULNERABILITY CONTEXT BY GENDER

When the most mentioned livelihood concerns are segregated by gender, some interesting similarities and differences can be seen. Figure 9 below shows those livelihood concerns reported by both male and female respondents. For both men and women financial hardship and food insecurity remained the most important livelihood concern, followed by food insecurity. For 67% (20) of men and 60% (30) of women financial hardship was a major concern. 40% (12) of men and 44% (22) of women in the sample reported being food insecure. Health problems were also a concern for both men and women with 30% (9) men and 30% (15) women reporting illness as a major impediment to making a livelihood. A slightly higher percentage of men, 27% (8) were concerned about the lack of business opportunities within the community than women 26% (13). A slightly larger percentage of women (18%) report changing weather patterns compared to men at (13%).

17% of men and 12% women were concerned with problems with *ganyu*. These problems included the lack of *ganyu* opportunities in the area, less pay compared to the amount of work completed, failure to get paid for work already done, and the fact that *ganyu* is an undesirable social activity. A young female respondent explained the social undesirability of *ganyu* when asked what she liked about her livelihood activities. "*I don't think there is anyone who can say that I am happy or proud to be doing ganyu. I just do it because I am lacking some basic needs* (*Kwilasya # 1*). *Ganyu* however is a source of "fast money" (*Kwilasya # 75*) and is sought when there is a need to supplement other livelihood activities. Another female respondent explained why she does ganyu in this way. "*I don't really like it but I do it when I have problems just to make sure that I can be able to support my family throughout the year" (Kwilasya # 53).*

Four percent (7) of women complained about the unpredictability of livelihood resources, compared to 13% of men. Interestingly, many of these respondents had multiple livelihood strategies. For example, the breakdown of women in this group shows that two women practiced rain fed agriculture and sold agricultural produce, two were farming and doing *ganyu,* one woman was farming, selling agricultural produce and selling *mandasi*, one was practicing both rain fed and *dambo* land agriculture, and another was practicing both rain fed farming and irrigated farming.

A significant difference was found in concerns about acquiring enough fertilizer for household farming. Forty seven percent of men (14), were concerned about having access to sufficient inputs, particularly fertilizer, while only 12% (6) women reported the same concern. Most respondents rely on subsidy coupons from the government to purchase fertilizer. These coupons, however, require two households to share one bag of fertilizer[3] and as a result respondents often complained of having very little fertilizer to meet their needs. Although the number of female respondents reporting fertilizer concerns is rather small, an interesting aspect is that all except one of the women were in polygamous marriages or divorced. More information is needed on whether polygamous marriage or divorce has an impact on women's access to inputs and in what way.

[3] 1 bag of fertilizer is 50 kgs

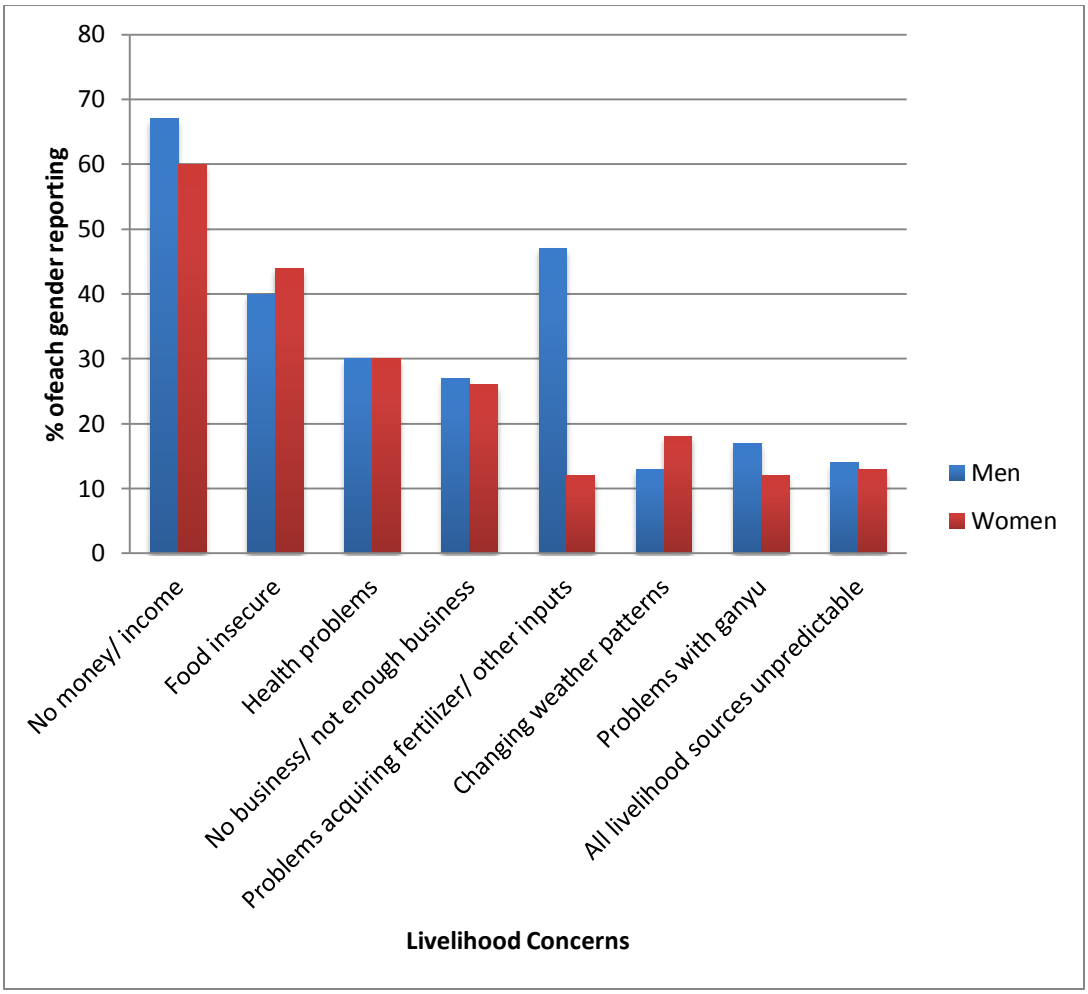


Figure 9: Livelihood challenges by gender – Kwilasya Forest Block

Several gender-specific vulnerabilities, that is concerns only mentioned by men and those only mentioned by women, were reported. For women, gendered barriers to livelihoods were the fourth most mentioned livelihood vulnerability with 16% of women indicating that being a woman is a major contributor to the challenges they faced. Various reasons were provided for this challenge. Married women have limited control of their ability to temporarily migrate outside the village in search of employment or business opportunities – a strategy that was available to and often employed by men. As discussed previously, young migrant women also reported problems with social isolation. These women lacked the same social support system they would have had while living in their home villages. This made farming and other daily activities more difficult since non-migrant women rely heavily on family members, in particular female relatives including sisters, cousins and friends to assist in farming, domestic work, and childcare responsibilities. One woman discussed exposure to illnesses as an important vulnerability associated with being a woman. The elderly woman explained that she had significant difficulty in managing her day-to-day activities due to complications associated with HIV/AIDS: "*I feel like because I am a woman I was exposed to the disease because of my husband. If I had the power to make decisions, I would not have been exposed to the disease" (Kwilasya # 70*). Divorce/complicated marriages was a concern mentioned by 12% of women. This included divorced women, women in polygamous marriages, and women whose husbands have migrated to South Africa, but are not sending

money back home. The main concern was difficulty meeting household needs given limited or non-existent assistance from men.

Four male respondents indicated that having too many people to support was an important contributor to their vulnerability context. Two male respondents expressed concerns that there were no employment opportunities within the country. That is even though men have the ability to migrate to search for better paying work, this work is often scarce within the country. One male respondent explained how this was problematic for earning a living. "*I feel like everywhere I can go I can't be employed so the main reason is that Malawi is poor" (Kwilasya # 21)*. For two young male respondents limited decision-making was indicated as a since the in-laws control major farming assets (land, *dambo* land). This also points to a possible second manifestation of age and gender for men with younger men having limited decision-making power over household reproductive resources.

5.3.2. UNDERSTANDING THE VULNERABILITY CONTEXT THROUGH AN INTERSECTIONAL GENDER ANALYSIS

The in-depth data collected enabled the research team to develop a deeper understanding of the vulnerability context and clarify observed trends. Although 42.5 % of respondents were concerned with food insecurity the pilot study was conducted on the heels of a major flooding/drought cycle within the district. This had an expected adverse impact on the harvest for that growing season which, in turn, was reflected in the answers provided by respondents. As an example, a young male farmer predicted that his family would run out of food at the beginning November of the same year five months before the next harvest (*Kwilasya # 23)* while a female farmer, with a family of three, had only harvested one bag of maize[4] and expressed great concern about her ability to feed her family for the remainder of the year (*Kwilasya # 28*). Most respondents we interviewed, however, saw food insecurity as a chronic recurring problem linked to an overreliance on farming as the main source of livelihood and a means of acquiring food for the household. Insufficient yields- particularly maize yields- were pinpointed by both male and female farmers as the major cause of food insecurity. A young male farmer provided a typical answer when asked about what he liked about making a living as a farmer: " *I am a bit satisfied but not really because sometimes I can harvest plenty and be able to survive but sometimes it is not easy to harvest plenty….. I normally have problems with how much I harvest. What I get by the end of the growing season is frustrating compared to what I invested*" (*Kwilasya # 43*).

While changing weather patterns are a primary livelihood concern they were also the most cited explanatory factor for low yields. Erratic precipitation patterns characterized by heavy rains, unexpected periods of drought and changing length of the rainy season were cited as having, in turn, made farming unpredictable. One middle aged male farmer drew a direct line between food insecurity, low yields and changing weather patterns: "*I face food insecurity due to low yields. I face these challenges because [the] rainfall pattern is no longer predictable as such the rain does not finish in time*" (*Kwilasya # 59*). In addition to having a direct impact on crops, a young male farmer also discussed compounding indirect effects complaining that heavy rains experienced that year had washed away his fertilizer and as a result his crop yields had suffered (*Kwilasya # 34*). A smaller proportion of residents identified soil exhaustion as another contributing factor to low yields. This in turn was attributed to continuously farming the same piece of land as well limited access to fertilizer.

[4] One bag of maize is normally 50 Kilograms (kg).

For the respondents who indicated health is a major concern the reduced the ability to work and make a livelihood was the most frequently discussed problem under health issues. Lack of access to adequate health care facilities because the nearest reliable health facility is more than six kilometers away was also seen as a significant health related challenge. While both female and male respondents were concerned with personal illness, young women also expressed concern about the impact of their children's illness on their ability to carry out livelihood activities since they are the primary caretakers for sick children. As an example when asked what her major livelihood challenges are, a young female respondent replied: *"I have problems to find money and another challenge is sickness. Whenever my children are sick I can't manage to do ganyu or work at the farm*" (*Kwilasya # 53*).

The difference in the percentage of men and women concerned about access to inputs can be linked to roles and responsibilities within the community where fertilizer provision for the household is defined as the man's responsibility. Men described fertilizer provision as an important aspect of fulfilling their obligations as head of the household. *"I get fertilizer for the household. I tell my wife that I have to buy fertilizer. It is because I am the leader of the family*" (*Kwilasya # 21*).

Women interviewed also provided detailed information regarding gendered barriers to livelihoods. Married women have limited control of their ability to temporarily migrate outside the village in search of employment or business opportunities – a strategy that was available to and often employed by men. While all women must seek the advice and blessing of family members to migrate, married women are expected to ask permission from husbands who, in turn, are particularly loathe to give such permission often saying that they cannot trust their wives away from home. Strong cultural norms therefore give men the power to make migratory decisions for women, thereby limiting women's access to potentially more lucrative wage opportunities. As one middle aged woman explained: "*Had it been that I was a man I could have been in South Africa by now, thereby claiming some income" (Kwilasya #52)*. Because they were limited in the ability to find paid work, respondent women often complained about being overly reliant on men to provide capital for business. Women recognized that it was not only that the fact that they were women which shaped their challenges, but also that fact that they were *rural* women. For example, while explaining how her husband would thwart any attempt to migrate in search of employment, a middle aged woman explained that if she lived in a small town, a petty business would be easier to maintain or she might be able to find other forms of employment such as being a housemaid, opportunities impossible to find in the village (*Kwilasya # 49*).

As indicated earlier for some male respondents, having too many people to support was an important contributor to their vulnerability context. This points to a possible intersectional moment for men where first-born men and/or wealth create particular livelihood pressures. This type of livelihood pressure is illustrated by one male respondent when asked what contributes to his livelihood challenges. "*I think I face these challenges because I take care of so many people. Imagine I have to take care of my wife and two children. At the same time, I have to take care of my siblings at my home village in Chaoni. It is hard. I think these things shape the challenges I face" (Kwilasya # 67*).

Observational data was also critical in helping understand which of the data was related to important larger trends within the community. For example, even though only one though the number of men reporting concerns about the lack of viable employment opportunities within Malawi particular concern are small conversations with other male community members over the period of the study indicates that this is a major concern for many men within the community.

5.4. LAND USE

Land use within the forest block was concentrated mainly on farming and *dambo* land agriculture. The usual rain fed agricultural period occurs between September/October to April. Land is cleared between September and October. Ridges are then made and planting occurs in November. Fertilizer application is completed in December, weeding in February and harvesting in April. *Dambo* land agriculture begins in April/May and is often completed when the normal growing season begins. *Dambo* land is adjacent to the river and or other marshland areas and stays moist during the dry season. In addition due to its proximity to a water source this land is often used to grow water sensitive crops that need irrigation including vegetables and maize.

5.4.1. CROPS GROWN

Maize was the most commonly grown grain with every respondent, except the one not involved in agriculture, farming the crop. We found ten varieties grown by the farmers interviewed. Local varieties, *Hybrid 41* and *MH 18,* were the most commonly grown maize varieties. Other less grown varieties included *Kanyani, Panar, Bantum*, *Damante, Masapa,* and *Fumba.* Thirty four percent (26) of respondents growing maize chose the particular variety grown because it was high yielding, 11% because it is early maturing, 10% because it was drought resistant and about 8% because it was resistant to weevils. Other reasons reported were suitability for domestic uses and availability of the particular seed in the local market. Although less common, millet, rice, and sorghum were also grown within the forest block. Nineteen (24%) respondents grew millet with local varieties being the most popular. *Hybrid 41* and *Mwalamope* were the only other millet varieties grown. Reasons provided for choosing varieties included good taste and large size (*Mwalamope*), availability of seed in local market (local varieties) and high yield and early maturity (*Hybrid 41*). Sixteen (20%) of respondents grew rice with *Amanda* and *Kangazani* varieties being the most popular. *Kilombera*, *Kachausana* and *Hybrid 41* were less commonly farmed varieties identified by respondents. All rice varieties were chosen because they mature early. *Kangazani* and *Amanda* were also desirable varieties because they mature early, have a nice aroma and are sell well at the market. The only sorghum variety identified by name was *Zomba.* Other varieties were either classified as local or reported as unknown. Reasons for choosing the *Zomba* sorghum included good flavor (all varieties) and early maturity (unknown maturity).

Sweet potatoes and cassava were additional starchy crops grown in the area. Twenty percent (16) of respondents grew sweet potatoes. Next to maize, sweet potato had the second highest number of varieties. Six varieties were identified by respondents: *John, Nsanje, Carrot, Babake* and *Kenya.* Three of these varieties, *Kampandelo, John* and *Kenya* were grown because they mature early. *Carrot, Nsanje and Kenya* were reported as desirable varieties because they sell well at the market. *Babake* and *Nsanje* are also high yielding. Both *Kenya* and *Nsanje* are the most available and, as a result, are the most popular sweet potato varieties grown. 69% of respondents who grew sweet potatoes planted *Kenya* and 31% of respondents grew *Nsanje*. Cassava was grown by (12.5%)10 respondents who identified four varieties: Local varieties, *Manyokola, Nakasi and Chilingano*. Farmers who grew local varieties chose this because it was often the only variety available on the market. *Manyokola* was desirable because it produces large tubers, sells well at the market and gives high yields. *Nakasi* was reported as a desirable variety because it stores well for long periods of time while *Chilingano* is good for domestic use.

Pigeon peas and groundnuts are the major legumes grown with 63% and 19% of respondents growing peas and groundnuts respectfully. Beans were also grown but to a much smaller extent – only 6% of respondents. Pea varieties grown include a hybrid (*Hybrid 41)* and local varieties. The hybrid variety was the most commonly grown among respondents with 80% of those growing peas farming this variety. Reasons provided for the strong preference of *Hybrid 41* include

drought resistance, high demand on the market, high yield and early maturity. Only one respondent grew a local variety because it produces large sized peas. Peanut varieties grown include two hybrids (*Hybrid 41* and *Hybrid G7)* and local varieties. Both hybrid varieties are high yielding with *Hybrid 41* having the added advantage of being early maturing. The local variety was grown because of it produces large size groundnuts. Respondents grew two bean varieties. These were *Kolongola* a high yielding variety and *Za Chimbamba* an early maturing and high yielding variety.

Other crops grown by the farmers interviewed included cotton (grown by five farmers purely as a cash cop), sesame (grown by only four respondents), and pumpkins (grown by 43 respondents mainly for household consumption), sunflower (grown by six respondents), soya beans (grown by four respondents), and vegetables (grown by most households for home consumption).

5.4.2. CROPS GROWN BY GENDER

Table 3 shows the crops grown by male and female respondents. Figure 11 and 12 show the crops by gender. Men and women reported growing the same crops except for sunflower, cotton, and sesame which were reported only by female respondents and soya beans which were only reported by men. However, because crops were grown in the same household field, these differences do not indicate that these crops were gendered. Ninety seven percent of men and 100% of women grow maize. Maize was a subsistence crop with 69 (86%) respondents either eating most or all of the maize harvest. This included 88% of women and 83% of men. Sixty four percent of women and 60% men grew pigeon peas. Pigeon peas were a dual propose crop with respondents mostly selling and eating the crop. Forty-seven of the 50 (94%), 62% of female respondents, and 53% of male respondents growing pigeon peas consume the crop and sell it on the market. Pumpkins were grown by 62% of women and 24% of men. 26% of the women respondents compared to 20 of men had planted millet for the season. Like pumpkins, millet is a subsistent crop with 68% of those growing the crop eating all of the harvest. Twenty percent of men and 20% of women farmed sweet potato. It is a dual-purpose crop with only one respondent eating all of her sweet potatoes, and one man and one woman selling all of the sweet potatoes grown. Pumpkin was a subsistence crop with only three women selling most of the crop harvested. Twenty-two percent of female respondents and 13% of men planted groundnuts. Eight women and 1 man (60% of those growing the crop) ate the entire groundnut harvest. 4 men sold all or most their groundnut harvest. Twenty seven percent of male respondents reported growing rice compared to 16% of women. For the respondents interviewed rice was mostly a subsistent crop with 56% of those growing rice using the entire harvest for household use and 31% selling some but consuming most of the crop. Cassava was grown by 17% of men and 10% of women. Like sweet potato, cassava was reported as a dual purpose crop with 70% of the respondents selling most or all of the cassava harvest and 40 % eating all. Interestingly the 40% of respondents who reported eating all of the harvest were men who also had other sources of income (*ganyu* and business)

Table 3: Crops grown by gender

Crops Grown	% men	# men	Crops grown	% women	# women
Maize	97	29	Maize	100	50
Pigeon peas	60	18	Pigeon peas	64	32
Pumpkins	24	12	Pumpkins	62	31
Rice	27	8	Millet	26	13
Millet	20	6	Groundnuts	22	11
Sweet potato	20	6	Sweet potato	20	10
Cassava	17	5	Rice	16	8
Groundnuts	13	4	Cassava	10	5
Sorghum	13	4	Cotton	10	5
Tomatoes	7	2	Beans	8	4
Beans	3	1	Sorghum	6	3
Soy beans	3	1	Sunflower	4	2
			Tomatoes	4	2
			Sesame	2	1

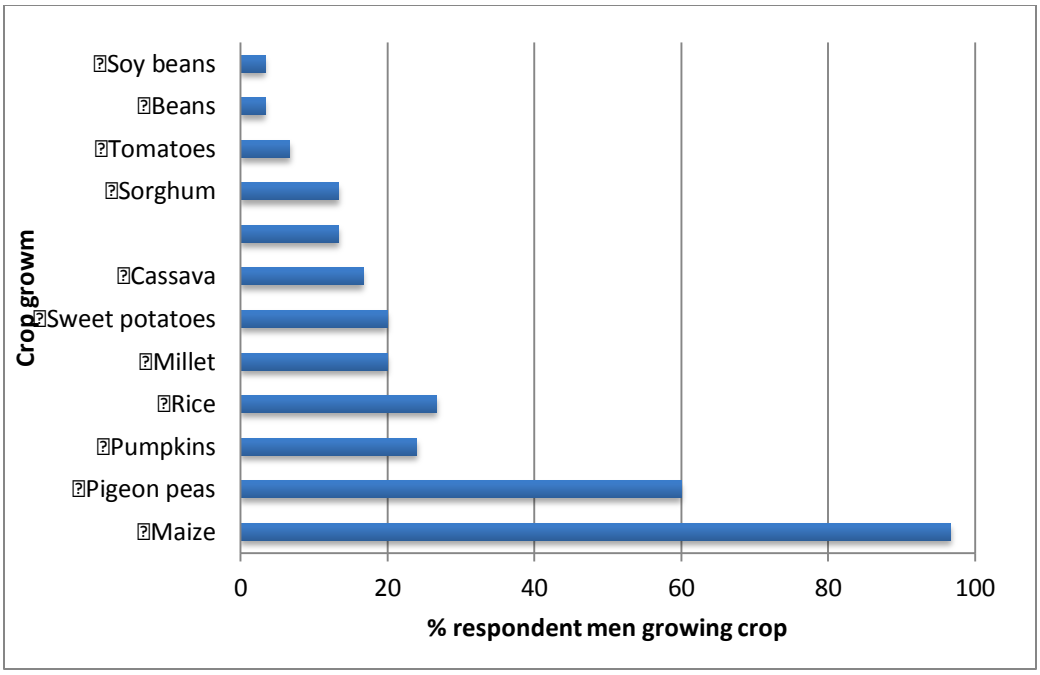


Figure 10: Crops grown by men - Kwilasya Forest Block

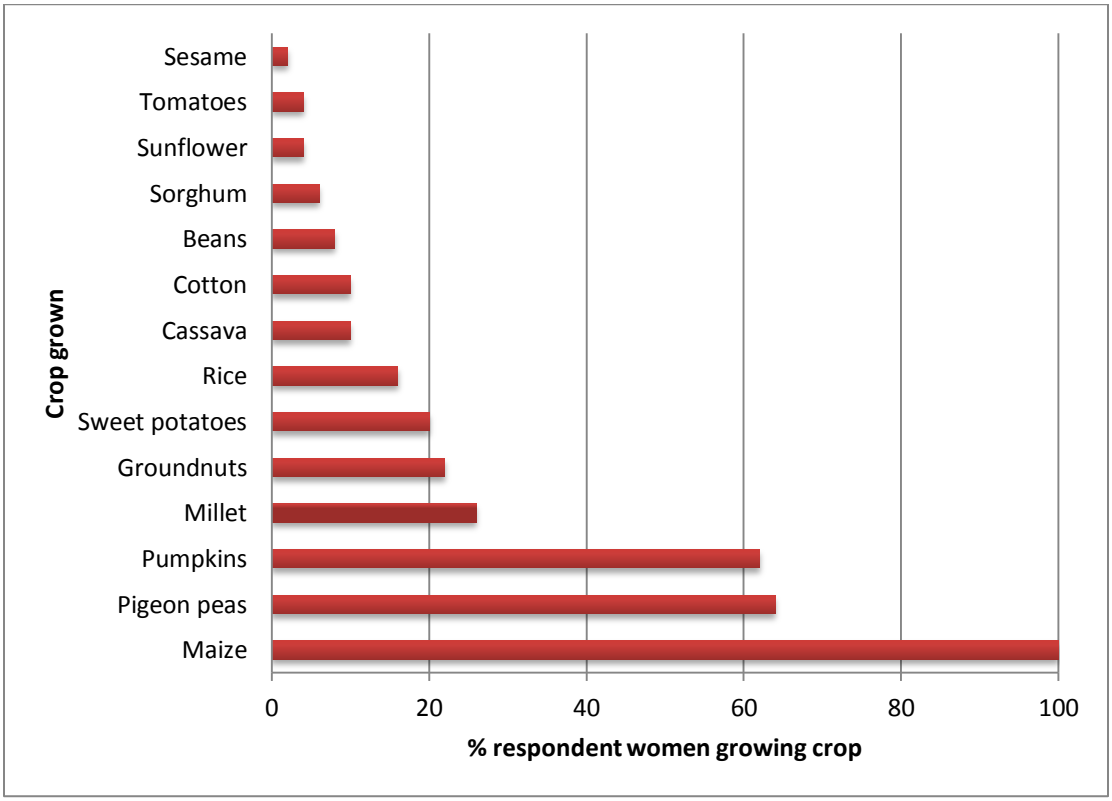


Figure 11: Crops grown by women- Kwilasya Forest block

5.4.3. AGRICULTURAL ROLES AND RESPONSIBILITIES

We found significantly little difference in the roles and responsibilities related to agriculture with regard to gender. Men, women and children reported taking part in all planting, weeding, and harvesting activities. Although this is what was reported, observational data showed that women often carried more of the burden of making sure that farming activities were completed. We were limited in being able to observe the data on roles and responsibilities in planting decisions since the study took place at harvest time.

5.4.4. UNDERSTANDING AGRICULTURE THROUGH AN INTERSECTIONAL GENDER ANALYSIS

From the examples in the vulnerability context, gender emerged as a master category for individual vulnerabilities. However, in correlating this information to the roles and responsibilities within agriculture, we see the impact of gender on vulnerability is more likely to be related to decision-making structures which restrict women's access to more lucrative wage earning opportunities, access capital to start a business, or limit decisions about one's own health. That is that women perceive their vulnerability to be more directly related to decision-making structures than as a result of gendered roles and responsibilities related to agriculture.

Figure 12: Clearing dambo land

Figure 13: Planting on dambo land

Figure 14: Sweet potato field showing constructed ridges

Figure 15: Children helping out during the maize harvest

5.5. FOREST USE

Although there were few gendered specific activities in farming. Forest use was clearly gendered with women mostly reporting collecting firewood while men were more likely to utilize the forest to collect timber and poles for construction. Although 12 (40%) of the men in the study indicated that they collect firewood, this was normally for household use by their wives. Men reported collecting firewood as part of running errands for their wives or helping with household chores. *Mchenga* (*Julbernardia globiflora)* and *Mtwana* (*Brachystegia bussei*) were the most commonly preferred tree species for firewood. Reasons for this preference included the fact that these species burn for long hours and produce minimal smoke. One respondent also mentioned that block residents had been instructed to harvest mainly Mchenga and Mtwana trees by the forest committee. This statement was not confirmed. *Mchenga, Mpandula*, Bluegum and *Mlombwa* (*Pterocarpus angolensis)* were the top four tree species used for timber. It is important to note, however, that the respondents sample here was small and these species may not be the most preferred across the board by men within the forest block. This information, however, can provide us with a limited understanding of the kinds of forest species that men utilize for construction compared to those preferred by women. Men also reported utilizing *Mpingu* and

Mkalati (Burkea africana) for curios as well as *Mjombo* for threads. In addition, *Mtwana* and *Mchenga* were also preferred charcoal species although this information is more anecdotal. Both men and women utilized the forest to pick mushrooms, grass, and medicine. Forty-eight percent of respondents (34% of whom are women and 14% men) reported utilizing the forest for mushrooms. Forty-eight percent of respondents reported utilizing the forest for grass. These included 30% of female respondents and 18% of male respondents. Only eleven of the respondents interviewed reported a significant involvement in the co-management activities related to the forest. These included clearing and making firebreaks, irrigating trees, planting trees, and reporting violators. Eight respondents claimed not to use the forest for any purpose at all. Reasons cited included old age making it difficult to navigate the forest terrain and ownership of personal trees. Observational data however showed that most of these respondents either directly or indirectly through children or other relatives did utilize the forest. Six respondents reported that they felt it was the responsibility of other members of the community, the forest committee members in particular, to take care of the forest block. In answering about whether she is involved in forest co management activities one female respondent replied: "*that forest is not ours anymore there are some people who own it (the forest committee). So I don't take care of the forest (Kwilasya # 79).*

Thirty-two respondents (40%) reported having personal trees, which were used for firewood, fruit and construction purposes. Fruit trees were the most commonly grown trees. These included papaya, pear trees, orange, *Masuku*, *Mpoza*, guava, avocado, and lemon. Most of the fruit was consumed in the household. Trees grown for other purposes by respondents included: Acacia, Bluegum, and Malaina, which are used in construction. Acacia and Bluegum were also grown specifically for sale of poles and timber products. *Mtutu, Nsangu, Kesha,* and *Mlomba* were grown for firewood. Respondents also reported growing Kehsa, Mango, and Nsangu for brick burning. Only Bluegum and Acacia were grown in any sizeable area of land as commercial woodlots. The other trees were grown around the compound.

Since there was some difficulty collecting reliable information related to forest use at the beginning of the research, only data that has been triangulated through observation and informal conversations with respondents has been reported in this section.

Table 4: Reported forest use- Kwilasya Forest Block

Overall Reported Forest Use				**Men Forest use**			**Women Forest Use**		
Uses	# Reporting use	Species Name	# Identifying species	# Reporting use	Species Name	Men Identifying species	# Reporting use	Species Name	Women Identifying species
Does not utilize forest	7								
Uses									
Firewood	40	Mchenga[5]	31	12	Mchenga	7	28	Mchenga	24
		Mtwana	21		Mtwana	4		Mtwana	17
		Mjombo	16		Jombo	3		Jombo	13
		Mkalati	8		Mkalati	2		Mkalati	6
		Mbawa	4		Mbawa	1		Namphini	4
		Namphini	4		Mlombwa	1		Mbawa	3
		Nthombozi	4		Mombo	1		Nthombozi	3
		Mlombwa	3		Mpandula	1		Khokolo	2
		Bluegum	2		Msangu	1		Bluegum	2
		Khokolo	2		Khulanyani	1		Mlombwa	2
		Lungwe	2		Napiri	1		Malayina	1
		Napiri	2		Ngongomwa	1		Masuku	1
		Mombo	2		Nthombozi	1		Mombo	1
		Malayina	1					Mbanga	1
		Masuku	1						
		Mpandula	1						
		Msangu	1						

[5] Please see Appendix B for the scientific names of species identified. Please note that all species identified even during conversations with respondents are included in the list

		Mbanga	1						
Overall Reported Forest Use				Men Forest use			Women Forest Use		
Uses	# Reporting use	Species Name	# Identifying species	# Reporting use	Species Name	Men Identifying species	# Reporting use	Species Name	Women Identifying species
Firewood Ctd		Mwanamphepo	1						
		Khulanyani	1						
		Nchonya	1						
		Ngongomwa	1						
Mushrooms	38			11			27		
	Mushroom types identified in conversations with residents were Kungulukwetiti, Nakachongolo, Utale, Utenga								
Medicine		Mwanamphepo	2	0			2		
		Nyunyu	1						
Threads		Mjombo	2						
Timber / Poles		Mchenga	4	9			0		
		Mpandula	3						
		Bluegum	3						
		Mlombwa	2						
		Mtondoko	1						
		Nsungwi	1						
		Chonya	1						
		Mitumbu	1						
		Mkalati	1						
		Jombo	1						
		Naphini	1						
Grass	38			14			24		
	Other grass types identified in general conversation								

	with respondents were Bango, Khambe, Khokolo, Nsaru								
Curios	2	Mpingu	1	2			0		
		Mkalati	1						
Charcoal	2	Mtwana	2	* Data not trustworthy					
		Mchenga	1						
Fruits	4	Masuku	1				1		
Stones	1						1		

Figure 16: Traditional and herbal medicine

Figure 17: Firewood collection

Figure 18: Poles and timber for construction

Figure 19: Brick burning

6. CONCLUSIONS: WHAT INTERSECTIONAL GENDER ANALYSIS CAN CONTRIBUTE TO PROJECTS

The goal of intersectional gender analysis is that it be contributed to the systematic identification of key issues contributing to gender inequalities in resource ownership and access, roles and responsibilities, and power relationships so that they can be properly addressed. To this end, intersectional gender analysis should provide data that is needed for a conventional gender analyses. As has been shown in the sample data provided on vulnerability context, land use and forest use on in this report, intersectional gender analysis can answer key questions such as what crops are being grown/what resources are being utilized? By whom and how? What are the constraints that people face? How do they respond to these challenges? What is the potential impact for projects? How can projects be designed to maximize benefit and reduce harm? Therefore, it is possible to use intersectional gender approaches to gather the data conventionally used to inform gender baseline studies for projects.

At the program, project, and activity level there are advantages to conducting intersectional gender analysis when compared to conventional gender analyses. Within conventional approaches, it is recommended to start by collecting sex-disaggregated data. Following the LIG approach, the study began by collecting data at an individual level. The initial phase tried to understand resource access and utilization, vulnerability concerns, and roles and responsibilities, as they were associated with the individuals who were interviewed. In addition, rather than being concerned with getting a precise number of men versus women in the sample, the study was also interested in interviewing as many people as possible from various categories of possible interest (young men, young women, old men, old women, people who do *ganyu*, people who have a business). While this might seem unsystematic, a critical point is that these interviews were exploratory, and conducted within the context of a bounded social and geographical space (in this case the forest block) within which the respondents being interviewed live and interact. Having an initial exploratory phase to understand how people live in a particular place (Carr 2013; 2014) provides a broader range of information giving the researcher/project the flexibility to analyze more social categories and understand how these have an impact on vulnerability in comparison with, or through intersection with, gender. For climate change projects this has the advantage of providing data for identifying both gendered patterns as well as the most vulnerable segments of a particular population.

For example, the analysis of the vulnerability context in Kwilasya in general shows that many of the vulnerability concerns were not specific to gender. These included income and food insecurity, health problems, lack of business opportunities, changing weather patterns and problems with *ganyu*. But there were several gender-specific vulnerabilities. These were gendered barriers to livelihoods and divorce/complicated marriage for women. For men, livelihood stressors were related to having too many people to support, not being able to find employment even after migrating and not having enough decision-making power for younger men. In this way intersectional gender analyses can offer both a wide and in-depth understanding of the vulnerability context that is normally not possible with conventional gender analysis.

The collection of information at the individual level within intersectional gender approaches does not preclude the aggregation of data into the desired gender categories at the analysis stage as demonstrated in the sample data provided here. Intersectional gender analyses therefore are capable of contributing to an understanding of gendered patterns in much the same way that conventional gender analyses can, but in addition they provide rigorous assessments of the validity of such divisions of the populations and in-depth explanations for observed patterns. Moreover, as can be seen from the identification of gender specific livelihood concerns, by paying attention to the ways in which gender intersects with other social categories. In this way IGAs provide programs and projects with the ability to understand how and when gender as a determinant of vulnerability comes to matter for men and women.

Intersectional data analysis therefore can contribute both strengthening data from conventional baseline gender analysis as well as forming the basis of a gender analysis linked to behavioral baselines and mid-term evaluations.

REFERENCES

Carr, E. R. 2014 From Description to Explanation: Using the Livelihoods as Intimate Government (LIG) Approach.*Applied Geography*, 52: 110-122

Carr, E. R. 2013. Livelihoods as Intimate Government: Reframing the logic of livelihoods for development. *Third World Quarterly*, *34*(1), 77–108.

Carr, E. R. 2008. Between structure and agency: Livelihoods and adaptation in Ghana's Central Region. *Global Environmental Change*, *18*(4), 689–699.

Carr E. R. and M. C. Thompson. 2014. Gender and Climate Change Adaptation in Agrarian Settings: Current Thinking, New Directions, and Research Frontiers. *Geography Compass,* 8(3),182–197

Demetriades, J., & Esplen, E. 2008. The Gender Dimensions of Poverty and Climate Change Adaptation. IDS Bulletin, 39(4), 24–31

Kaijser, A. and Kronsell, A. 2013. Climate change through the lens of intersectionality.

Environmental Politics 0 (0), 1- 17

Shields, A. S. 2008. Gender: An Intersectionality Perspective *Sex Roles,* 59(5) 301-311

Sultana, F. (2013). Gendering climate change: geographical insights. *The Professional Geographer* (November), 1-10.

Protecting Ecosystems and Restoring Forests in Malawi (PERFORM). 2014. First Annual Work Plan: January 2015 – September 2015. Prepared for review by United States Agency for International Development (USAID)

Kachato Forest Block Co-Management Plan. 2014. Produced by the Machinga Forest District Office

Kwilasya Forest Block Co-Management Plan. 2014. Produced by the Machinga Forest District Office

APPENDIX A: RESOURCES FOR CARRYING OUT GENDER ANALYSIS

Aguilar, L., 2009. Training manual on gender and climate change. Gland, Switzerland: International Union for Conservation of Nature and New York, USA: United Nations Development Programme. Downloaded, 22 September 2015: http://data.iucn.org/dbtw-wpd/edocs/2009-012.pdf)

Jost, Christine, Nafisa Ferdous and Taylor D. Spicer. 2014. Gender and Inclusion Toolbox: Partiicipatory Research. CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Copenhagen, Denmark. Available at: www.ccafs.cgiar.org

Freudenthal Solveig and Judith Narrowe. 1995. Baseline Study Handbook: Focus on the field. Evaluation Unit, Planning Secretariat, SIDA. Downloaded, 22 September 2015: http://www.sida.se/contentassets/00973c1234a049f0904e32f19ef52e1d/baseline-study-handbook_2564.pdf

USAID guide to gender integration and analysis: Downloaded September 22, 2015: https://www.usaid.gov/sites/default/files/documents/1865/201sab.pdf

Elias Marlène. 2013. Tips for asking gender-responsive questionsBiodiversity International. Dowloaded September 22, 2015: http://www.bioversityinternational.org/uploads/tx_news/Tips_for_asking_gender-responsive_questions_1659.pdf

Fetterman, David. 1998. Ethnography: Step by step. Thousands Oaks, California: Sage Publications.

Matthew B. Miles and A. Michael Huberman, 1994. Qualitative Data Analysis. Thousand Oaks, CA: Sage

Robert Emerson, Rachel Fretz, and Linda Shaw, 1995. Writing Ethnographic Field notes. Chicago: University of Chicago Press

Kathy Charmaz. Constructing Grounded Theory: A Practical Guide through Qualitative Analysis, Introducing Qualitative Methods series. Thousand Oaks, CA: Sage Publications.

Carr, E. R. 2014 From Description to Explanation: Using the Livelihoods as Intimate Government (LIG) Approach. *Applied Geography*, 52: 110-122

APPENDIX B: TREE, MUSHROOM AND GRASS SPECIES UTILIZED BY RESPONDENTS, CHICHEWA/YAO NAMES WITH SCIENTIFIC NAMES

Bango	Reed
Chinyenye	Bobgunnie madagascariensis
Chiphate/ Phatwe	Ochna schweinfurthiana
Chitimbe	Bauhinia thonningii
Chizembu	-
Chombozi/ Thombozi	Diplorhynchus condylocarpon
Chonya/Nchoya	Breonardia salicina
Chyombo/Mombo	Brachystegia boehmii
Isamba/Tsamba	Brachystegia floribunda
Jombo	Brachystegia boehmii
Khambe	Grass for fence construction
Khokholo	Grass for thatching houses
Khulanyani/ Mweranyani	Sterculia quinqueloba
Kungulukwetiti	Wild mushroom which is eaten dried
Litchenga/ Mchenga	Julbernardia globiflora
Luzi	Rope fiber
M'banga	Pericopsis angolensis
M'lungwe	-
Mabanga/ M'banga	Pericopsis angolensis
Malayina	Gmelina arborea
Masuku	Uapaca kirkiana
Mbango/ Mango	mangifera indica

Mbawa	Khaya anthotheca
Mchenga	Julbernardia globiflora
Michona/ Nchoya	Breonardia salicina
Mikuyu	Ficus sycomorus
Misangu sangu/ Nsangu	Faidherbia albida
Misuku/ Masuku	Uapaca kirkiana
Mitondolo	Mortars
Mitumbu	Kirkia acuminata
Mkalati	Burkea africana
Mkate/ Mkute	Combretum collinum
Mlombwa	Pterocarpus angolensis
Mmbwambwa (for Mankwala)	Pterocarpus angolensis
Mombo/ Mujombo	Brachystegia boehmii
Mpandula	Bauhinia petersiana
Mpingu	Hoslundia opposita
Mposa/ Mipoza	Annona senegalensis
Msenga/ Msengwa	Albizia amara
Msungwi/Nsungwi	Oxytenanthera abyssinica
Mtema/ Nthema	Strychnos spinosa
Mtondoko/ Mtondowoko	Sclerocarya birrea
Mtonya/ Nchoya	Breonardia salicina
Mtwana	Brachystegia bussei
Mulobwa	Pterocarpus angolensis
Muwanga	Pericopsis angolensis
Mwanaphepo	-
Mzuku/ Msuku	Uapaca kirkiana
Nakachongolo	Wild mushroom red in color eaten dry as well
Naphini	Terminalia sericea
Napiri	Terminalia sericea
Nchesi/ Nchase	Pterocarpus rotundifolius
Nchonya	Breonardia salicina
Nderema	Strychnos spinosa
Ngongomwa/ Mngongomwa	Afzelia quanzensis
Ngungwi	Oxytenanthera abyssinica
Nkaladi/ Mkalati	Burkea africana
Nsanu (grass)	-
Nsopa/ Msopa	Bridelia micrantha
Nsungwi	Oxytenanthera abyssinica
Nthombozi/ Thombozi	Diplorhynchus condylocarpon
Ntwana/ Mtwana	Brachystegia bussei
Nyunyu/ Nkuyu	Ficus sycomorus

Tsanya	Colophospermum mopane
Sopa/ Msopa	Bridelia micrantha
Thombozi	Diplorhynchus condylocarpon
Udzu	General name for grasses
Utale	Mushroom white in color that is eaten fresh
Utenga/ Uthenga?	Yellow wild mushroom eaten dry

U.S. Agency for International Development

1300 Pennsylvania Avenue, NW

Washington, DC 20523

Tel: (202) 712-0000

Fax: (202) 216-3524

www.usaid.gov